

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
29 December 2004 (29.12.2004)

PCT

(10) International Publication Number  
**WO 2004/113968 A3**

(51) International Patent Classification<sup>7</sup>: **G02B 5/02, 5/04**

(21) International Application Number:  
PCT/NL2004/000443

(22) International Filing Date: 22 June 2004 (22.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
NL1023737 24 June 2003 (24.06.2003) NL

(71) Applicant (for all designated States except US): **MA-CHINEFABRIEK OTTO SCHOUTEN B.V.** [NL/NL];  
Bedrijvenstraat 6, NL-4283 JH Giessen (NL).

(71) Applicant and

(72) Inventor: **WENGER, Klaus, Herbert, Gunter** [NL/NL];  
Bisonspoor 2142, NL-3605 LK Maarssen (NL).

(74) Agent: **KLAVERS, Cornelis, Wilhelmus, A.**; Mark-  
erkant 1201.20, NL-1314 AJ Almere (NL).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

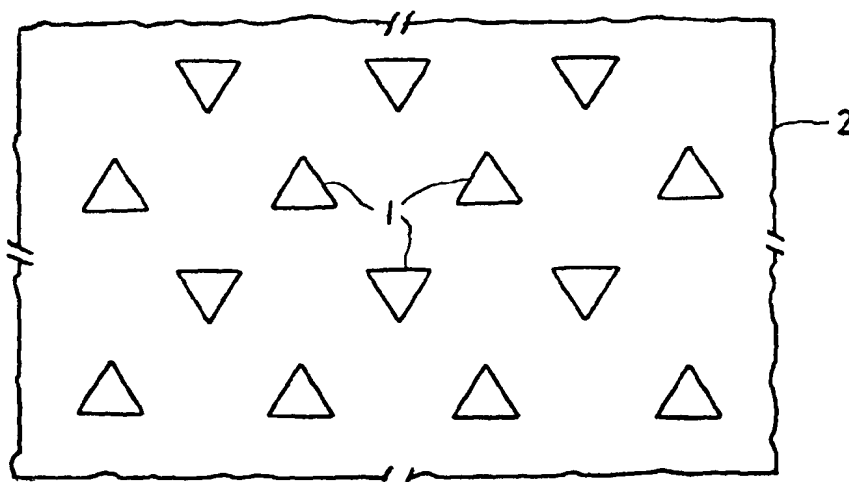
(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

[Continued on next page]

(54) Title: **LIGHT-DISTRIBUTING OPTICAL FOIL**



(57) Abstract: What is disclosed is a foil comprising optically refractive pyramidal elements, which each have a triangular base. The bases of adjacent elements are turned 180 degrees relative to each other. It has been found that such a foil has optically refractive characteristics upon incidence of electromagnetic waves thereon, which characteristics render the foil suitable for imparting a desired pattern, possibly in a desired direction, to the exiting waves. The pattern may be a uniform pattern, for example, so as to impart a uniform or diffuse light distribution to electromagnetic waves, for example visible light, from a concentrated light source.

WO 2004/113968 A3



**(88) Date of publication of the international search report:**  
7 April 2005

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*